

14/03/2007, 10568495c.trn

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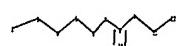
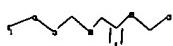
SESSION RESUMED IN FILE 'REGISTRY' AT 13:31:17 ON 13 MAR 2007

FILE 'REGISTRY' ENTERED AT 13:31:17 ON 13 MAR 2007

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.90	187.28
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.78

=>  
Uploading C:\Program Files\Stnexp\Queries\10568495c.str



chain nodes :

1 3 4 5 6 7 8 9 10 11 12

chain bonds :

1-3 3-4 4-5 5-6 6-7 7-8 8-9 8-10 9-11 11-12

exact/norm bonds :

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exact bonds :

3-4 4-5 7-8 11-12

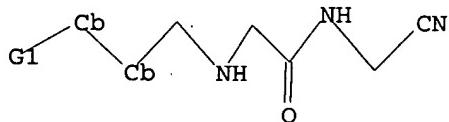
G1:Cb,Ak,O,S,N

14/03/2007, 10568495c.trn

Match level :  
1:CLASS 3:Atom 4:Atom 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS  
11:CLASS 12:CLASS  
Generic attributes :  
3:  
Saturation : Unsaturated  
4:  
Saturation : Unsaturated

L7 STRUCTURE uploaded

=> d 17  
L7 HAS NO ANSWERS  
L7 STR



G1 Cb,Ak,O,S,N

Structure attributes must be viewed using STN Express query preparation.

=> s 17  
SAMPLE SEARCH INITIATED 13:32:07 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 562 TO ITERATE

100.0% PROCESSED 562 ITERATIONS 3 ANSWERS  
SEARCH TIME: 00.00.02

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 9818 TO 12662  
PROJECTED ANSWERS: 3 TO 163

L8 3 SEA SSS SAM L7

=> s 17 full  
FULL SEARCH INITIATED 13:32:14 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 12073 TO ITERATE

100.0% PROCESSED 12073 ITERATIONS 124 ANSWERS  
SEARCH TIME: 00.00.01

L9 124 SEA SSS FUL L7

=> file hcaplus  
COST IN U.S. DOLLARS SINCE FILE TOTAL  
ENTRY SESSION  
FULL ESTIMATED COST 173.45 359.83  
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL  
ENTRY SESSION

14/03/2007, 10568495c.trn

CA SUBSCRIBER PRICE 0.00 -0.78

FILE 'HCAPLUS' ENTERED AT 13:32:18 ON 13 MAR 2007  
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FILE COVERS 1907 - 13 Mar 2007 VOL 146 ISS 12  
FILE LAST UPDATED: 11 Mar 2007 (20070311/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 19  
L10 14 L9

=> d ed abs ibib hitstr 1-14

14/03/2007, 10568495c.trn

L10 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 01 Feb 2007

AB The invention relates to the treatment of parasitic disease with inhibitors of the papain family cysteine proteases. The parasitic diseases include toxoplasmosis, malaria, African trypanosomiasis, Chagas disease, leishmaniasis and schistosomiasis. The invention also relate to the pharmaceutical compns. comprising a papain family cysteine protease inhibitor and another agent in the treatment for parasitic disease.

ACCESSION NUMBER: 2007113649 HCAPLUS

DOCUMENT NUMBER: 146177158

TITLE: Papain family cysteine protease inhibitors for the treatment of parasitic diseases

INVENTOR(S): Black, Cameron; Mellon, Christophe; Nicoll-Griffith, Deborah Anne; Oballa, Renata

PATENT ASSIGNEE(S): Merck Frost Canada Ltd., Can.

SOURCE: PCT Int. Appl. 42pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007012180	A1	20070201	WO 2006-CA1216	20060724
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KW, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TO, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: US 2005-702455P P 20050726

IT 603139-99-7P 603141-70-4P 603141-71-5P

847361-57-3P 922138-48-5P 922138-49-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(papain family cysteine protease inhibitors for treatment of parasitic diseases and combination with other agents)

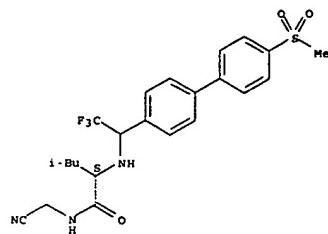
RN 603139-99-7 HCAPLUS

CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl)amino]-, (2S)- (9CI) (CA INDEX NAME)

INDEX NAME)

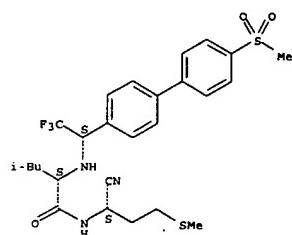
Absolute stereochemistry.

L10 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603141-70-4 HCAPLUS  
CN Pentanamide,  
N-[(1S)-1-cyano-3-(methylthio)propyl]-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

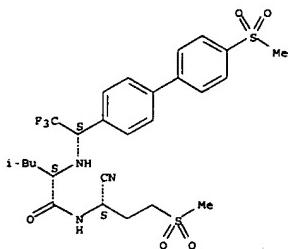
Absolute stereochemistry.



RN 603141-71-5 HCAPLUS  
CN Pentanamide, N-[(1S)-1-cyano-3-(methylsulfonyl)propyl]-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

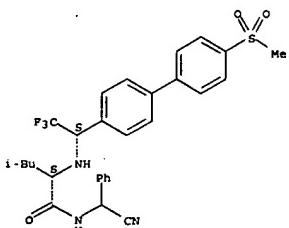
L10 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 847361-57-3 HCAPLUS

CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

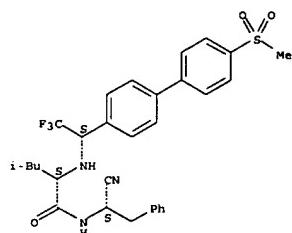


RN 922138-48-5 HCAPLUS

CN Pentanamide, N-[(1S)-1-cyano-2-phenylethyl]-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (CA INDEX NAME)

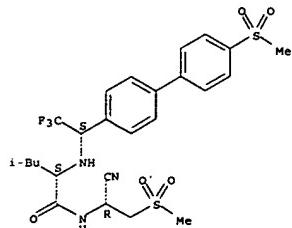
Absolute stereochemistry.

L10 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 922138-49-6 HCAPLUS  
CN Pentanamide, N-[(1S)-1-cyano-2-(methylsulfonyl)ethyl]-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

14/03/2007, 10568495c.trn

L10 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 28 Jul 2006

AB The invention relates to the treatment of obesity, the treatment of obesity-related disorders, prevention of weight gain, prevention of weight regain or for weight maintenance, by the use of a cathepsin K inhibitor as active ingredient, alone or in conjunction with other anti-obesity agents.

The invention also relates to pharmaceutical compds. comprising cathepsin K inhibitors as active ingredients, pharmaceutically acceptable carriers or excipients, and optionally one or more anti-obesity agents.

ACCESSION NUMBER: 2006:715916 HCAPLUS

DOCUMENT NUMBER: 145:159867

TITLE: Cathepsin K inhibitors for the treatment of obesity and obesity-related disorders

INVENTOR(S): Percival, Michael David

PATENT ASSIGNEE(S): Merck Frosst Canada Ltd., Can.

SOURCE: PCT Int. Appl., 32 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006076796	A1	20060727	WO 2006-CAS5	20060117
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MM, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BP, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: US 2005-644926P P 20050119

OTHER SOURCE(S): MARPAT 145:159867

IT 603139-13-5 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (cathepsin K inhibitors for treatment of obesity and obesity-related disorders)

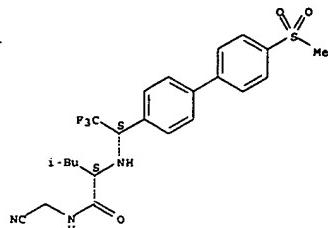
RN 603139-12-4 HCAPLUS

CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4-(methylsulfonyl){1,1'-biphenyl}-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

INDEX NAME)

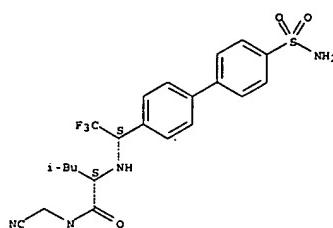
Absolute stereochemistry. Rotation (+).

L10 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603139-13-5 HCAPLUS  
CN Pentanamide, 2-[(1S)-1-[4'-(aminosulfonyl){1,1'-biphenyl}-4-yl]-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 27 Jul 2006

AB This invention relates to a genus of compds., such as N-1-

cyanocyclopropyl-4-fluoro-N2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)-1,1'-biphenyl-4-yl]ethyl]-L-leucinamide or N-[1-[(1S)-1-[4-(cyanomethyl)aminocarbonyl]cyclohexyl]-4-(4-propylpiperazin-1-yl)benzamide, which are inhibitors of cathepsin K. These compds. are useful for treating or preventing atherosclerosis and atherosclerotic cardiovascular disease.

ACCESSION NUMBER: 2006:733104 HCAPLUS

DOCUMENT NUMBER: 145:159834

TITLE: Cathepsin K inhibitors and atherosclerosis

INVENTOR(S): Percival, Michael David

PATENT ASSIGNEE(S): Merck Frosst Canada Ltd., Can.

SOURCE: PCT Int. Appl., 28 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006076797	A1	20060727	WO 2006-CAS5	20060117
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MM, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BP, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: US 2005-644938P P 20050119

OTHER SOURCE(S): MARPAT 145:159834

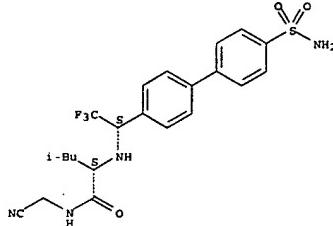
IT 603139-13-5 603141-37-3 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (cathepsin K inhibitors and treatment of atherosclerosis and atherosclerotic cardiovascular diseases and combination with other agents)

RN 603139-13-5 HCAPLUS

CN Pentanamide, 2-[(1S)-1-[4'-(aminosulfonyl){1,1'-biphenyl}-4-yl]-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

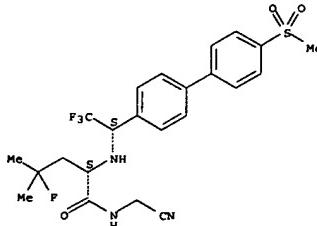
Absolute stereochemistry.

L10 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



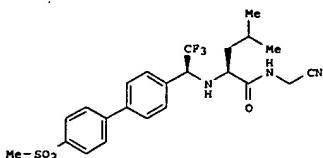
RN 603141-37-3 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-fluoro-2-[(1S)-1-[4-(methylsulfonyl){1,1'-biphenyl}-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ED Entered STN: 07 May 2006  
 GI



I

**AB** A practical, chromatog.-free synthesis of potent cathepsin K inhibitor I is described. The addition of 4-bromophenyllithium to an  $\alpha$ -trifluoromethylimine derived from com. available (S)-leucinol was accomplished in a highly diastereoselective manner (97.6% de, 91% yield). Subsequent Suzuki cross-coupling afforded the biaryl derivative. Oxidation of the alc. And sulfide functionalities led to the formation of carboxylic acid. Crystallization of the biaryl intermediate and the acid as its dicyclohexylamine salt gave excellent impurity rejection. The final amide coupling with com. available aminocetonitrile hydrochloride afforded I in excellent purity (99.6% by HPLC, 100% de, <3 ppm Pd, W, Cr).

ACCESSION NUMBER: 2006:413175 HCAPLUS

DOCUMENT NUMBER: 145:124273

TITLE: Diastereoselective Aryllithium Addition to an  $\alpha$ -Trifluoromethyl Imine. Practical Synthesis of a Potent Cathepsin K Inhibitor

AUTHOR(S): Roy, Amelie; Gosselin, Francia; O'Shea, Paul D.; Chen,

CORPORATE SOURCE: Cheng-Y.

Department of Process Research, Merck Frosst Centre for Therapeutic Research, Kirkland, QC, H9H 3L1, Can.

SOURCE: Journal of Organic Chemistry (2006), 71(11).

CODEN: JOCHEAH ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:124273

IT 603139-12-4P

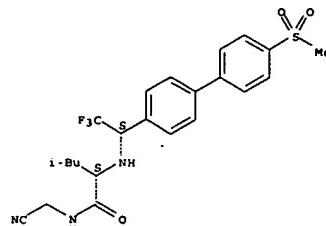
RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of a potent cathepsin K inhibitor by diastereoselective aryllithium addition to an  $\alpha$ -trifluoromethyl imine)

RN 603139-12-4 HCAPLUS

CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX

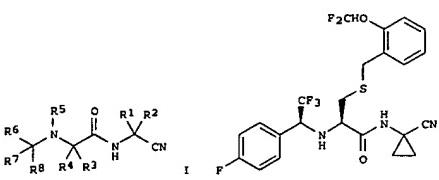
L10 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L10 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ED Entered STN: 31 Mar 2006  
 GI



II

**AB** The present invention is directed to a novel process for preparing cyanomethyl peptide analogs I (R1 = H, alkyl; R2 = H, alkyl, haloalkyl, carboxyalkyl, alkoxycarboxyalkyl, cycloalkyl, cycloalkylalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocyclylalkyl, CN, etc.; or R1 and R2 may form cycloalkyl or heterocyclylalkyl ring; R3 = H, alkyl; R4 = H, alkyl, haloalkyl, cycloalkylalkyl, aryl, aralkyl, heteroaryl, heteroalkyl, heterocyclyl, etc.; or R3 and R4 may form cycloalkyl ring; R5 = H, alkyl; R6 = (un)substituted cycloalkyl, aryl, aralkyl, heteroaryl, heteroalkyl, heterocyclyl; R7 = haloalkyl, R8 = H, alkyl, haloalkyl) or pharmaceutically acceptable salts thereof, useful as cysteine protease inhibitors (no data). Thus, N-alkylation of S-(2,2,2-trifluoro-1-(4-fluorophenyl)ethyl triflate (preparation given) with 2,2,2-trifluoro-1-(4-fluorophenyl)ethyl triflate (preparation given), followed

by S-oxidation and amidation with 1-amino cyclopropanecarbonitrile (preparation given) gave cyanocyclopropyl peptide analog II after column chromatog.

ACCESSION NUMBER: 2006:298556 HCAPLUS

DOCUMENT NUMBER: 144:350977

TITLE: Methods for the preparation of cyanomethyl peptide analogs useful as cysteine protease inhibitors

INVENTOR(S): Li, Jiayao

PATENT ASSIGNEE(S): Axys Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl. 101 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006034004	A2	20060330	WO 2005-US33051	20050916
WO 2006034004	A3	20061123		
W:	AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, PI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MM, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RU, RO, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN			

L10 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

YU, ZA, ZM, ZW  
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PRIORITY APPLN. INFO.: US 2004-610806P P 20040917

OTHER SOURCE(S): MARPAT 144:350977

IT 603139-12-4P 603139-13-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

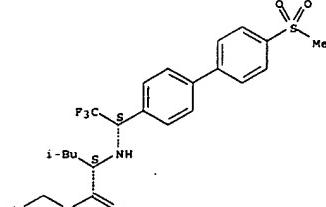
(methode for the preparation of cyanomethyl peptide analogs useful as cysteine protease inhibitors)

RN 603139-12-4 HCAPLUS

CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX

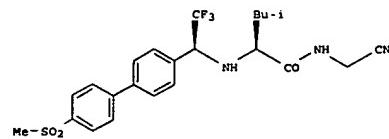
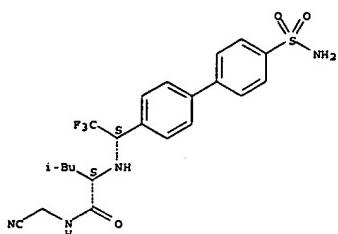
NAME)

Absolute stereochemistry. Rotation (+).



RN 603139-13-5 HCAPLUS  
 CN Pentanamide, 2-[(1S)-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX

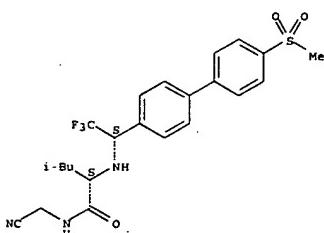
NAME)



**AB** Based on our previous study with trifluoroethylamine as a P2-P3 amide isostere of cathepsin K inhibitor, further optimization led to identification of L-873724 (I) as a potent and selective non-basic cathepsin K inhibitor. This compound showed excellent pharmacokinetics and efficacy in an ovariectomized (OVX) rhesus monkey model. The vols. of distribution close to unity were consistent with this compound not being lysosomotropic, which is a characteristic of basic cathepsin K inhibitors.

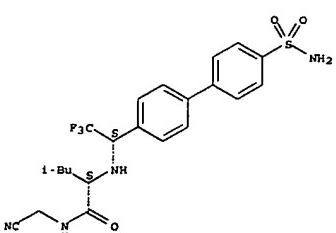
**ACCESSION NUMBER:** 2006:188910 HCAPLUS  
**DOCUMENT NUMBER:** 144:403771  
**TITLE:** Identification of a potent and selective non-basic cathepsin K inhibitor  
**AUTHOR(S):** Li, Chun Sing; Deschenes, Denis; Desmarais, Sylvie; Palqueyret, Jean-Pierre; Gauthier, Jacques Yves; Kimmel, Donald B.; Leger, Serge; Massé, Frédéric; McGrath, Mary E.; McKay, Daniel J.; Percival, M. David; Riendeau, Denis; Roden, Sevgi B.; Therrien, Michel; Truong, Vuong-Linh; Wesolowski, Gregg; Zamboni, Robert; Black, W. Cameron  
**CORPORATE SOURCE:** Merck Frosst Centre for Therapeutic Research, Pointe-Claire-Dorval, QC, H9R 4PB, Can.  
**SOURCE:** Bioorganic & Medicinal Chemistry Letters (2006), 16(7), 1985-1989  
**PUBLISHER:** CODEN: BMCLB8; ISSN: 0960-894X  
**DOCUMENT TYPE:** Elsevier B.V.  
**LANGUAGE:** Journal  
**IT** 603139-12-4P  
**RL**: PAC (Pharmacological activity); SPN (Pharmacokinetics); SYN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
**(Preparation); USES (Uses)**  
**RN** 603139-12-4 HCAPLUS

Absolute stereochemistry. Rotation (+).



**IT** 603139-13-5P  
**RL**: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic Preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
**RN** 603139-13-5 HCAPLUS  
**CN** Pentanamide, 2-[(1S)-1-[4'-(aminosulfonyl)[1,1'-biphenyl]-4-yl]-2,2,2-trifluoroethylamino]-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

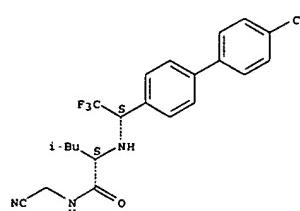


**IT** 603139-65-7P 603140-08-S 603140-40-5P  
**RN** 603140-50-7P 603140-54-1P 603141-12-4P

Young, Shawquia, Page 7

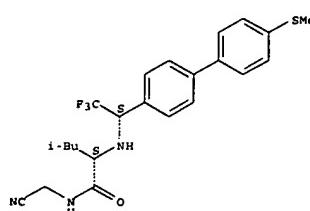
**RN** 603139-65-7 HCAPLUS  
**CN** Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoroethylamino]-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



**RN** 603140-08-S HCAPLUS  
**CN** Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-methoxy[1,1'-biphenyl]-4-yl]ethylamino]-, (2S)- (9CI) (CA INDEX NAME)

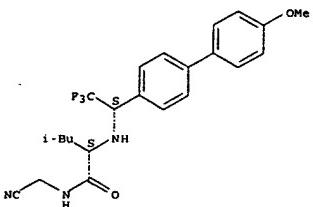
Absolute stereochemistry.



**RN** 603140-40-S HCAPLUS  
**CN** Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-(4'-methoxy[1,1'-biphenyl]-4-yl)ethylamino]-, (2S)- (9CI) (CA INDEX NAME)

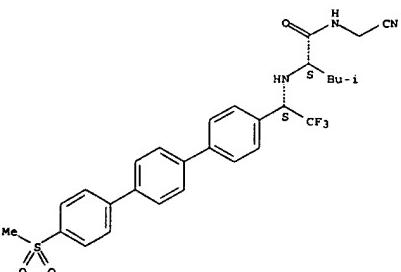
Absolute stereochemistry.

L10 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603140-50-7 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[( $(1S)$ -2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1':4',1'''-terphenyl]-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

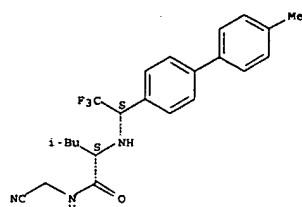
Absolute stereochemistry.



RN 603140-54-1 HCAPLUS  
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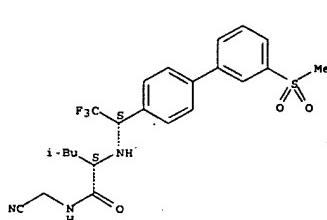
Absolute stereochemistry.

L10 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

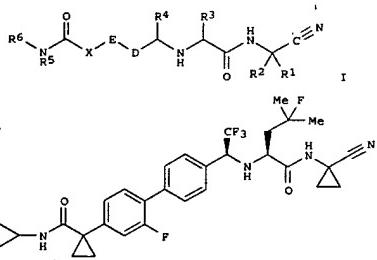


RN 603141-12-4 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[( $(1S)$ -2,2,2-trifluoro-1-[3'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L10 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ED Entered STN: 24 Jun 2005  
GI

AB The invention relates to a novel class of compds. I [R1, R2 are independently H, (un)substituted alkyl, alkenyl, aryl, heteroaryl or heterocyclyl; or R1R2C form a cycloalkyl or heterocyclyl ring; R3 is (un)substituted alkyl or alkenyl; R4 is alkyl or haloalkyl; R5 is H or alkyl; D, E are independently (un)substituted aryl or heteroaryl; X is cycloalkyl or CRaRB, where Ra, Rb are H or alkyl optionally substituted by

OR5] which are cysteine protease inhibitors (e.g., inhibitors of cathepsins K, L, S and B) and are useful for treating osteoporosis and other diseases in which inhibition of bone resorption is indicated.

Thus, 4-fluoro-L-leucine 1-cyanocyclopropylamide II was prepared via coupling of intermediates

1-(4-bromo-3-fluorophenyl)-N-cyclopropylcyclopropanecarboxamide ide with N1-(1-cyanocyclopropyl)-4-fluoro-N2-[( $(1S)$ -2,2,2-trifluoro-1-[4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]ethyl]-L-leucinamide in the presence of  $\text{Pd}(\text{PPh}_3)_4$ /bis(diphenylphosphino)ferrocene/dichloropalladium (II).

ACCESSION NUMBER: 2005:547595 HCAPLUS

DOCUMENT NUMBER: 143:60251

TITLE: Preparation of peptide nitriles as cathepsin cysteine protease inhibitors

INVENTOR(S): Boyd, Michael; Lau, Cheuk; Mellon, Christophe; Roy,

Bruno; Scheitz, John; Truong, Voay Linh

PATENT ASSIGNEE(S): Merck Frosst Canada &amp; Co., Can.

SOURCE: PCT Int. Appl., 69 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

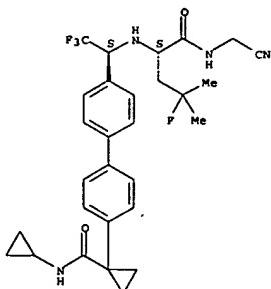
L10 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
PATENT NO. KIND DATE APPLICATION NO. DATE

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W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MM, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RM:	BH, CH, GM, IE, LS, MM, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AN, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CO, CI, CM, GA, GN, GQ, GW, MD, MR, NE, SN, TD, TG			
AU:	2004-296905	A1 20050623	AU 2004-296905	20041209
CA:	2548600	A1 20050623	CA 2004-2548600	20041209
EP:	1694647	A1 20060830	EP 2004-802278	20041209
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS			
CN:	1906164	A 20070131	CN 2004-80036642	20041209
PRIORITY APPLN. INFO.:			US 2003-529254P	P 20031212
			WO 2004-CA2101	W 20041209

OTHER SOURCE(S): MARPAT 143:60251  
IT 854268-13-6P 854268-19-2P 854268-47-6P  
RU: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

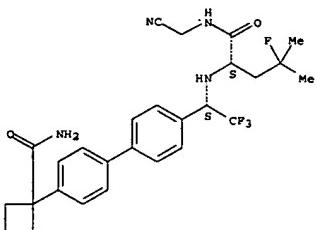
(Preparation of peptide nitriles as cathepsin cysteine protease inhibitors)  
RN 854268-13-6 HCAPLUS  
CN Cyclopropanecarboxamide, 1-[4'-[( $(1S)$ -1-[( $(1S)$ -1-[(cyanomethyl)amino]carbonyl]-3-fluoro-3-methylbutyl)amino]-2,2,2-trifluoroethyl][1,1'-biphenyl]-4-yl]-N-cyclopropyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



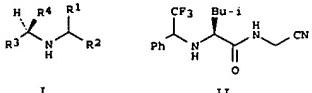
RN 854268-19-2 HCPLUS  
 CN Cyclobutanecarboxamide, 1-[4'-{[(1S)-1-[(cyanomethyl)amino]carbonyl]-3-fluoro-3-methylbutyl]amino]-2,2,2-trifluoroethyl [1,1'-biphenyl]-4-yl] (CA INDEX NAME)

Absolute stereochemistry.



RN 854268-47-6 HCPLUS  
 CN Cyclopropanecarboxamide, 1-[4'-{[(1S)-1-[(cyanomethyl)amino]carbonyl]-3-fluoro-3-methylbutyl]amino]-2,2,2-trifluoroethyl [1,1'-biphenyl]-4-yl] (CA INDEX NAME)

Absolute stereochemistry.



AB The invention relates to compds. I which are cysteine protease inhibitors, including but not limited to inhibitors of cathepsins K, L, S and B, and are useful for treating diseases in which inhibition of bone resorption

is indicated, e.g., osteoporosis, osteoarthritis and rheumatoid arthritis. Thus, a mixture of L-leucine Me ester hydrochloride, 2,2,2-trifluoroacetophenone, diisopropylethylamine and TiCl4 in CH2Cl2 was stirred overnight, addnl. TiCl4 added, and the mixture stirred an addnl.

3 h. A solution of NaCNBH3 in MeOH was added and the mixture stirred 2 h to afford Me N-(2,2,2-trifluoro-1-phenylethyl)-L-leucinate. Saponification of the ester and reaction with aminocapronitrile hydrochloride in DMP in the presence of PyBOP and Et3N yielded L-leucinamide derivative II.

ACCESSION NUMBER: 2005-219775 HCPLUS

DOCUMENT NUMBER: 142-280425

TITLE: Preparation of amino acid derivatives as cathepsin inhibitors

INVENTOR(S): Bayly, Christopher; Black, Cameron; McKay, Daniel J.

PATENT ASSIGNEE(S): Merck Frosst Canada & Co., Can.

SOURCE: PCT Int. Appl., 106 pp.

CODEN: PIIXD2

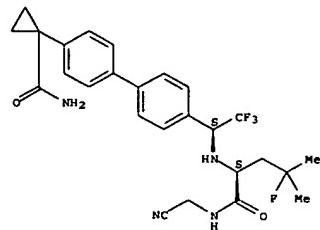
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005021487	A1	20050310	WO 2004-CA1577	20040823
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RM: BM, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW				
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BP, BJ, CP, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004268707	A1	20050310	AU 2004-268707	20040823
CA 2535366	A1	20050310	CA 2004-2535366	20040823



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

R: AT, BE, CH, DE, DK, EG, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, PI, RO, CY, TR, BG, CZ, EE, HU, PL, SK

CN 1842515 A 20061004 CH 2004-80024520 20040823

JP 2007503401 T 20070222 JP 2006-524194 20040823

US 2006287402 A1 20061221 US 2006-569351 20060222

PRIORITY APPLN. INFO.: US 2003-498017P P 20030827

WO 2004-CA1577 W 20040823

OTHER SOURCE(S): MARPAT 142-280425

IT 603139-08-6P 603139-12-4P 603141-70-4P

603142-15-0P 847361-50-6P 847361-57-3P

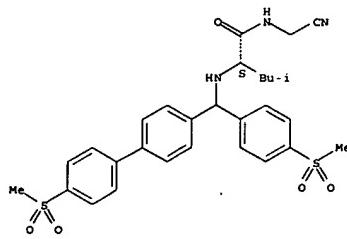
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Use(s))

(preparation of amino acid derive. as cathepsin inhibitors)

RN 603139-08-6 HCPLUS

CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)-4-(methylsulfonyl)phenyl]methylamino-, (2S)- (9CI) (CA INDEX NAME)

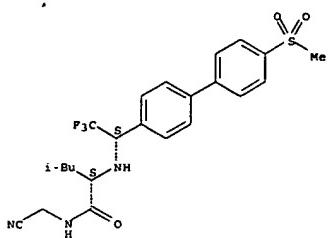
Absolute stereochemistry.



RN 603139-12-4 HCPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

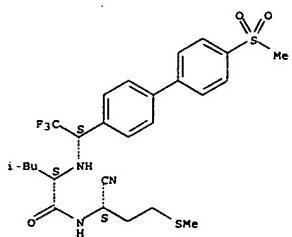
Absolute stereochemistry. Rotation (+).

L10 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603141-70-4 HCAPLUS  
CN Pentanamide,  
N-((1S)-1-cyano-3-(methylthio)propyl)-4-methyl-2-[(*(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl*)amino]-, (2S)- (9CI) (CA INDEX NAME)

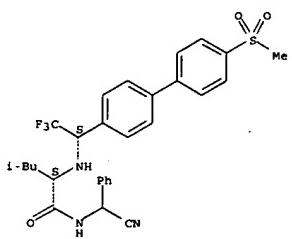
Absolute stereochemistry.



RN 603142-15-0 HCAPLUS  
CN Pentanamide,  
N-(1-cyano-1-methylethyl)-4-methyl-2-[(*(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl*)amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

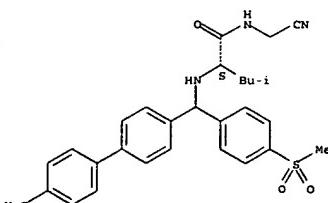
L10 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 603141-16-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of amino acid derive. as cathepsin inhibitors)

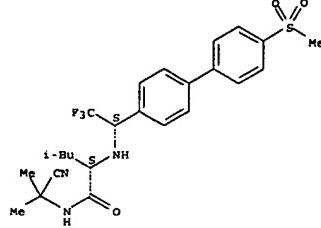
RN 603141-16-8 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(4-(methylsulfonyl)phenyl)-4'-(methylthio)(1,1'-biphenyl)-4-yl)methyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



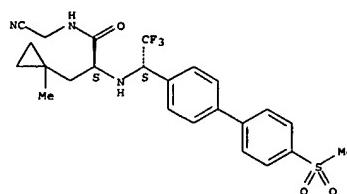
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 847361-50-6 HCAPLUS  
CN Cyclopropanepropanamide, N-(cyanomethyl)-1-methyl-a-[(*(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl*)amino]-, (aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 847361-57-3 HCAPLUS  
CN Pentanamide,  
N-(cyanophenylmethyl)-4-methyl-2-[(*(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl*)amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L10 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 04 Mar 2005

AB The invention relates to amino acid derive. HO2C-Gn-E-D-CHR4NHCHR3CONHCR1R2CN [R1, R2, R3 are independently H, (un)substituted alkyl or alkenyl; R4 is H or haloalkyl; D, E are independently (un)substituted aryl or heteroaryl; G is (un)substituted alkyl, alkoxy, aryl, heteroaryl, cycloalkyl, heterocyclyl, O, imino, S, SO, SO<sub>2</sub> or CO; n is 1-3], which are cysteine protease inhibitors and are useful for treating diseases in which inhibition of bone resorption is indicated, e.g., osteoporosis. Thus, (S)-p-MeSO2CH4C6H4-p-CH(CF<sub>3</sub>)-L-Leu-NHCH2CN

was prepared by a multistep sequence in which the reactants are L-leucinol, trifluoroacetaldehyde Me hemiacetal, 1,4-dibromobenzene, 4-(methylthio)phenylboronic acid, and aminoacetonitrile hydrochloride.

ACCESSION NUMBER: 2005182615 HCAPLUS  
DOCUMENT NUMBER: 1421280422  
TITLE: Preparation of amino acid derivatives as cathepsin cysteine protease inhibitors  
INVENTOR(S): Gauthier, Jacques Yves; Truong, Vuoy Linh  
PATENT ASSIGNEE(S): Merck Prostet Canada & Co., Can.  
SOURCE: PCT Int. Appl., 84 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005019161	A1	20050303	WO 2004-CA1524	20040819
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MM, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, UA, UG, US, U2, VC, VN, YU, ZA, ZM, ZW				
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AU 20044265740	A1	20050303	AU 2004-266740	20040819
CA 2515359	A1	20050303	CA 2004-2535359	20040819
EP 1673336	A1	20060228	EP 2004-761688	20040819
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CN 1839113	A	20060927	CN 2004-8002160	20040819
JP 2007502781	T	20070215	JP 2006-523498	20040819
US 2006287373	A1	20061221	US 2006-568495	20060215
PRIORITY APPLN. INFO.:			US 2003-496825P	P 20030821
			WO 2004-CA1524	W 20040819

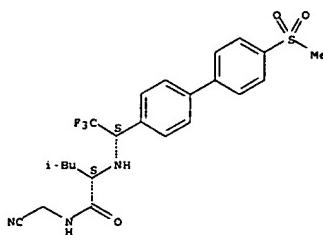
OTHER SOURCE(S): MARPAT 1421280422

IT 603139-12-4P  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of amino acid derive. as cathepsin cysteine protease inhibitors)

14/03/2007, 10568495c.trn

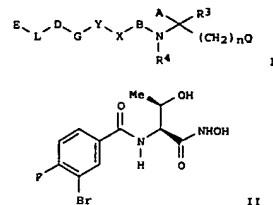
L10 ANSWER 9 OF 14 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)  
RN 603139-13-4 HCPLUS  
CN Pentenamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{[4-(methylsulfonyl)[1,1'-biphenyl]-4-ylethyl]amino}-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

L10 ANSWER 10 OF 14' HCAPLUS COPYRIGHT 2007 ACS on STN  
ED Entered STN: 30 Jul 2004  
GI



AB Title compds. I [E = absent or H, (un)substituted-alkyl, -alkenyl, -aryl, etc.; L = absent or CONH, NHCO, (un)substituted alkyl, etc.; D = absent or (un)substituted-cycloalkyl, -aryl, -heterocyclyl or -heteroaryl; G = absent or alkene, alkyne, CO, etc.; Y = (un)substituted-cycloalkyl, -aryl, -heterocyclyl or -heteroaryl; X = CO, alkylcarbonyl, alkenylcarbonyl, alkynylcarbonyl, methylene, or when B is absent X and A together form heterocyclic ring; B = absent or substituted aminoalkylcarbonyl; R3 = H or (un)substituted alkyl, or R3 and A together form a cycloalkyl or heterocyclic ring; R4 = H or (un)substituted alkyl, or R4 and A together form a heterocyclic ring; n = 0-2; A = H, acetylene, alkyl, etc.; Q = absent or substituted amide, SH, SO2NH2, CO2H, etc.] are disclosed. As well as stereoisomers, pharmaceutically acceptable salts, esters, and prodrugs thereof; pharmaceutical compds. comprising such compds.; methods of treating bacterial infections by the administration of such compds.; and processes for the preparation of the compds. Thus, e.g., II was prepared via

prepared via  
amidation of 3-bromo-4-fluorobenzoic acid with L-threonine Me ester  
hydrochloride followed by substitution with hydroxylamine hydrochloride.  
This invention pertains generally to treating infections caused by  
gram-negative bacteria. More specifically, the invention described pertains  
to treating gram-negative infections by inhibiting activity of  
UDP-3-( $\alpha$ -D-hydroxydecanoyl)-N-acetylglucosamine deacetylase (LpxC).  
Many of I displayed an IC50 value of less than 10  $\mu$ M with respect to  
inhibition of LpxC.

inhibition of LpxC.  
ACCESSION NUMBER: 2004:610055 HCPLUS  
DOCUMENT NUMBER: 141:157473  
TITLE: Preparation of amino acid derivatives as  
antibacterial agents  
INVENTOR(S): Adarsh, Neela V.; Bowman, James; Erwin, Alice

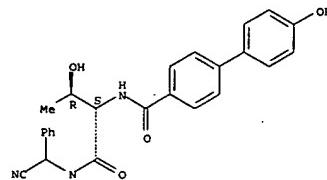
L10 · ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
Harwood, Eric; Kline, Toni; Miduli, Khimizui; Ng,  
Simon; Pfister, Keith B.; Shawar, Ribhi; Wagman,  
Allan; Yabannavar, Asha  
PATENT ASSIGNEE(S): Chiron Corporation, USA  
SOURCE: PCT Int. Appl. . 324 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004062601	A2	20040729	WO 2004-15433	20040108
WO 2004062601	A3	20050421		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ				
AU 2004204760	A1	20040729	AU 2004-204760	20040108
CA 2512582	A1	20040729	CA 2004-2512582	20040108
US 2004229955	A1	20041118	US 2004-754928	20040108
EP 1618087	A2	20060125	EP 2004-700887	20040108
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, PI, RO, MK, CY, AL, TR, BG, CZ, EE, EU, HR, SK				
CH 1777577	A	20060524	CN 2004-80005935	20040108
JP 2006519772	T	20060831	JP 2006-500858	20040108
IN 2005KN01343	A	20060915	IN 2005-KN1343	20050712
US 2006154988	A1	20060713	US 2005-187708	20050722
PRIORITY APPLN. INFO.:			US 2003-438523P	P 20030108
			US 2003-466974P	P 20030430
			US 2003-520211P	P 20031113
			US 2004-754928	A1 20040108
			WO 2004-15433	W 20040108

OTHER SOURCE(S): MARPAT 141:157473  
IT 728867-68-3P 728867-70-7 728867-72-9P  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)  
(drug candidate; preparation of amino acid derivs. as antibacterials)

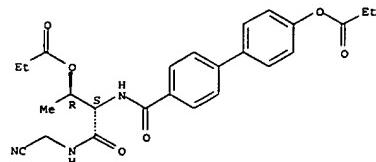
RN 728867-68-3 HCAPLUS  
 CN {1,1'-Biphenyl}-4-ca-  
 N-((1S,2R)-1-[(cyanophen-  
 bonyl]-2-hydroxyprop-

L10 ANSWER 10 OF 14 HCPLUS COPYRIGHT 2007 ACS ON STN (Continued)



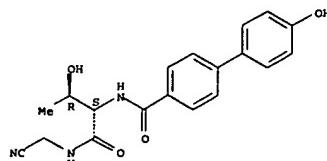
RN 728867-70-7 HCAPLUS  
CN [1,1'-Biphenyl]-4-carboxamide,  
N-[(1S,2R)-1-{{(cyanomethyl)amino}carbonyl}-  
2-(1-oxopropoxy)propyl]-4'-(1-oxopropoxy)- (9CI) (CA INDEX NAME)

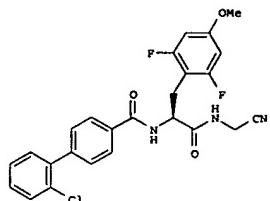
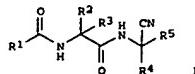
### Absolute stereochemistry.



RN 728867-72-9 HCPLUS  
 CN [1,1'-Biphenyl]-4-carboxamide,  
 N-[(1S,2R)-1-[(cyanomethyl)amino]carbonyl]-  
 2-hydroxypropyl]-4'-hydroxy- (9CI) (CA INDEX NAME)

### Absolute stereochemistry.





**AB** The dipeptide derivs. [I] ( $R_1$  = substituted Ph, aryl, diaryl, heteroaryl, furanyl, arylfuranyl, pyrazolyl, etc.;  $R_2$  = H, (un)substituted cycloalkyl, indolyl, alkylindolyl, Me, Et, Pr, pentyl, etc.;  $R_3$  = H, or  $R_2$  and  $R_3$  together with the carbon atom to which they are attached formed (un)substituted cycloalkylene, cycloalkenylene or spirocycloalkylene;  $R_4$  = H;  $R_5$  = H, (un)substituted alkyl or heteroaryl, or  $R_4'$  and  $R_5$  together with the carbon atom to which they are attached form cycloalkylene or heterocycloalkylene] were prepared as cysteine protease inhibitors, in particular, cathepsins B, K, L, P, and S, for treating diseases mediated by these proteases. Thus, compound II was prepared via peptide coupling of 2'-chlorobiphenyl-4-carboxylic acid with synthesized 2(S)-amino-N-cyanomethyl-3-(2,6-difluoro-4-methoxyphenyl)-propionamide. Compds. of the invention were tested by *in vitro* assays for protease activity and showed cathepsins B, K, L, P, and S inhibitory activity.

ACCESSION NUMBER: 2004/S15539 HCPLUS  
DOCUMENT NUMBER: 141:71829  
TITLE: Cyanomethyl derivatives as cysteine protease inhibitors

PATENT ASSIGNEE(S): Axys Pharmaceuticals, Inc., USA  
SOURCE: PCT Int. Appl. 134 pp.  
CODEN: PIIXD2

DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1

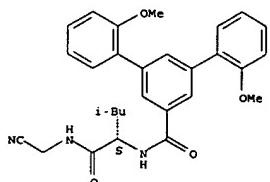
## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004052921	A1	20040624	WO 2003-US37979	20031126
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BM, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MO, MM, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MM, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, PR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CP, CG, CI, CM, GA, GN, GO, GM, ML, MR, NE, SN, TD, TG				
CA 2506114	A1	20040624	CA 2003-2506114	20031126
AU 2003298740	A1	20040630	AU 2003-298740	20031126
EP 1569954	A1	20050907	EP 2005-796459	20031126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2006122184	A1	20060608	US 2005-536889	20050107
PRIORITY APPLN. INFO.: US 2006122184			US 2002-431354P	P 20021205
WO 2003-US37979			WO 2003-US37979	W 20031126

OTHER SOURCE(S): MARPAT 141:71829  
IT 710350-11-1P 710350-22-4P 710350-24-6P  
710350-25-7P 710350-36-OP 710350-37-1P  
710350-39-3P 710350-80-4P  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses); (preparation of dipeptide cyanomethyl derivs. as cysteine protease inhibitors)

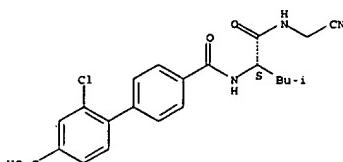
RN 710350-11-1 HCPLUS  
CN {1,1':3',1''-Terphenyl}-5'-carboxamide, N-[(1S)-1-((cyanomethyl)amino)carbonyl]-3-methylbutyl]-2,2''-dimethoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



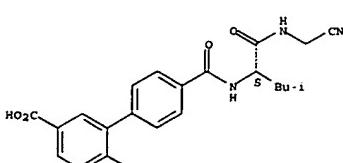
RN 710350-22-4 HCPLUS  
CN [1,1'-Biphenyl]-4-carboxylic acid, 2-chloro-4'-[(1S)-1-((cyanomethyl)amino)carbonyl]-3-methylbutyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 710350-24-6 HCPLUS  
CN [1,1'-Biphenyl]-3-carboxylic acid, 4'-[(1S)-1-((cyanomethyl)amino)carbonyl]-3-methylbutyl]- (9CI) (CA INDEX NAME)

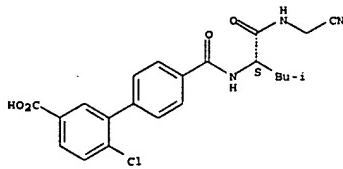
Absolute stereochemistry.



RN 710350-25-7 HCPLUS

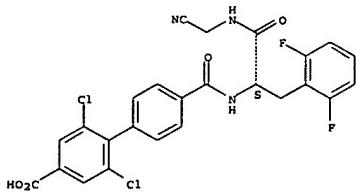
L10 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN [1,1'-Biphenyl]-3-carboxylic acid, 6-chloro-4'-[[(1S)-1-  
 [(cyanomethyl)amino]carbonyl]-3-methylbutyl]amino]carbonyl]- (9CI) (CA  
 INDEX NAME)

Absolute stereochemistry.



RN 710350-36-0 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxylic acid, 2,6-dichloro-4'-[[(1S)-2-  
 [(cyanomethyl)amino]-1-[(2,6-difluorophenyl)methyl]-2-  
 oxoethyl]amino]carbonyl]- (9CI) (CA INDEX NAME)

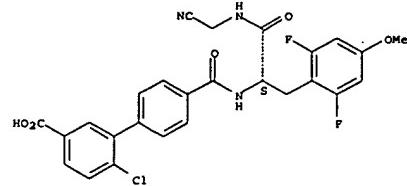
Absolute stereochemistry.



RN 710350-37-1 HCAPLUS  
 CN [1,1'-Biphenyl]-3-carboxylic acid, 6-chloro-4'-[[(1S)-2-  
 [(cyanomethyl)amino]-1-[(2,6-difluoro-4-methoxyphenyl)methyl]-2-  
 oxoethyl]amino]carbonyl]- (9CI) (CA INDEX NAME)

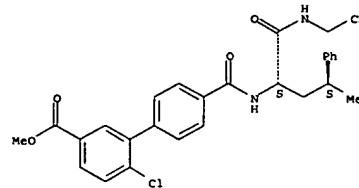
Absolute stereochemistry.

L10 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 710350-39-3 HCAPLUS  
 CN [1,1'-Biphenyl]-3-carboxylic acid, 6-chloro-4'-[[(1S,3S)-1-  
 [(cyanomethyl)amino]carbonyl]-3-phenylbutyl]amino]carbonyl]-, methyl  
 ester (9CI) (CA INDEX NAME)

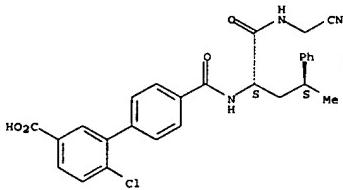
Absolute stereochemistry.



RN 710350-80-4 HCAPLUS  
 CN [1,1'-Biphenyl]-3-carboxylic acid, 6-chloro-4'-[[(1S,3S)-1-  
 [(cyanomethyl)amino]carbonyl]-3-phenylbutyl]amino]carbonyl]- (9CI) (CA  
 INDEX NAME)

Absolute stereochemistry.

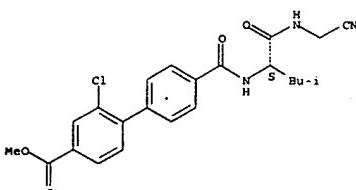
L10 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 710350-76-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation of dipeptide cyanomethyl derivs. as cysteine protease  
 inhibitors)

RN 710350-76-8 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxylic acid, 2-chloro-4'-[[(1S)-1-  
 [(cyanomethyl)amino]carbonyl]-3-methylbutylamino]carbonyl]-, methyl  
 ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 19 Sep 2003

AB This invention relates to cysteine protease inhibitors.  
 R7(D)nCR6R7NR8CR3R4C(=O)NHC(R12)CN (R1 = H, (substituted)C1-6-alkyl or  
 C2-6-alkenyl; R1 and R2 or R3 and R4 may be take together with the C atom  
 to which they are attached to form a (substituted)C3-8-cycloalkyl or  
 heterocyclic ring; R5 = H, (substituted)C1-6-alkyl; R6 =  
 (substituted)diaryl, heteroaryl, C1-6-haloalkyl, arylalkyl, heteroarylalkyl;  
 D = (substituted)C1-3-alkyl, C2-3-alkenyl, C2-3-alkynyl, aryl,

heteroaryl,  
 C3-8-cycloalkyl, heterocyclic; R7 = H, (substituted)C1-6-alkyl,  
 C2-6-alkenyl, C2-6-alkynyl, C1-6-alkoxy, etc.; R8 = H, C2-6-alkyl)  
 including but not limited to, inhibitors of cathepsins K, L, S and B.  
 These compds. are useful for treating diseases in which inhibition of

bone resorption is indicated, such as osteoporosis.

ACCESSION NUMBER: 2003-737516 HCAPLUS

DOCUMENT NUMBER: 139-257284

TITLE: Cathepsin cysteine protease inhibitors and their therapeutic use

INVENTOR(S): Bayly, Christopher I.; Black, Cameron; Leger, Serge; Li, Chun Sing; McKay, Dan; Mellon, Christophe; Gauthier, Jacques Yves; Lau, Cheuk; Therien, Michel; Truong, Voay-Linh; Green, Michael J.; Hirschtein, Bernard L.; Janc, James W.; Palmer, James T.; Baskaran, Chitra

PATENT ASSIGNEE(S): Merck Frosst Canada & Co., Can.; Axyx Pharmaceuticals, Inc.

SOURCE: PCT Int. Appl., 282 pp.

DOCUMENT TYPE: PCT XD2

LANGUAGE: Patent

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

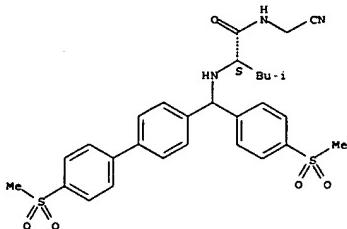
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003075836	A2	20030918	WO 2003-US6147	20030228
WO 2003075836	A3	20040715		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MM, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AH, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, PR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BP, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG				
CA 2477657	A1	20030918	CA 2003-2477657	20030228
AU 2003219953	A1	20030922	AU 2003-219953	20030228
US 2003232863	A1	20031218	US 2003-377377	20030228
EP 1482924	A2	20041208	EP 2003-716238	20030228
R: AT, BE, CH, ES, FR, GB, GR, IT, LI, LU, NL, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003008208	A	20050111	BR 2003-8208	20030228
CN 1638757	A	20050713	CN 2003-805181	20030228
JP 2005526753	T	20050908	JP 2003-574112	20030228
NZ 534583	A	20061130	NZ 2003-534583	20030228

14/03/2007, 10568495c.trn

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 US 2005240023 A1 20051027 US 2004-505796 20040825  
 NO 2004004207 A 20041124 NO 2004-4207 20041004  
 PRIORITY APPLN. INFO.: US 2002-361818P P 20020305  
 US 2002-408704P P 20020906  
 WO 2003-US6147 W 20030228

OTHER SOURCE(S): MARPAT 119:257284  
 IT 603139-08-8P 603139-09-9P 603139-12-4P  
 603139-13-5P 603139-22-6P 603139-23-7P  
 603139-24-2P 603139-28-2P 603139-29-3P  
 RL: BSU (Biological study, unclassified); SPN (Synthetic preparation);  
 THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses) (cathepsin cysteine protease inhibitors and their therapeutic use)  
 RN 603139-08-8 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl)[4-(methylsulfonyl)phenyl]methyl]amino-, (2S)- (9CI) (CA INDEX NAME)

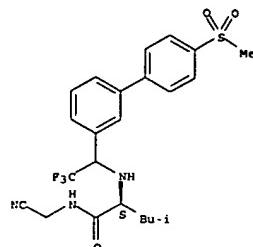
Absolute stereochemistry.



RN 603139-09-9 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1'-biphenyl]-3-yl]ethyl)amino]-, (2S)- (9CI) (CA INDEX NAME)

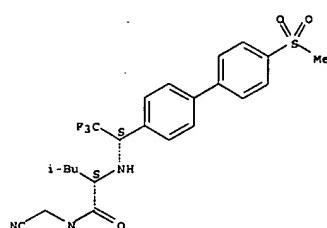
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603139-12-4 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



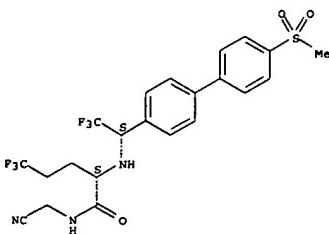
RN 603139-13-5 HCAPLUS  
 CN Pentanamide, 2-[(1S)-1-[4'-(aminosulfonyl)[1,1'-biphenyl]-4-yl]-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 603139-22-6 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-5,5,5-trifluoro-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

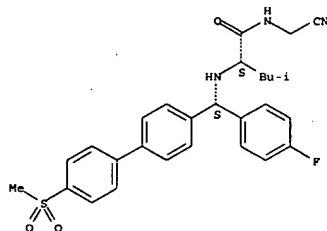
Absolute stereochemistry.



RN 603139-23-7 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-2-[(S)-(4-fluorophenyl)[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]methyl]amino]-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

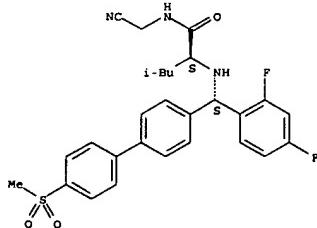
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603139-24-8 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-2-[(S)-(2,4-difluorophenyl)[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]methyl]amino]-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

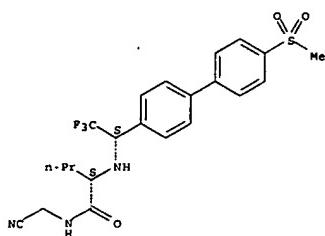
Absolute stereochemistry.



RN 603139-28-2 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

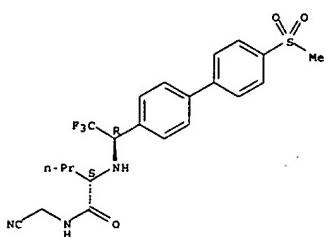
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603139-29-3 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-2-[(1R)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 603139-56-6P 603139-57-7P 603139-65-7P  
 603139-67-9P 603139-68-0P 603139-69-1P  
 603139-70-4P 603139-72-6P 603139-74-8P  
 603139-78-2P 603139-84-0P 603139-85-1P  
 603139-89-5P 603139-90-8P 603139-91-9P  
 603139-94-2P 603139-97-5P 603139-98-6P  
 603139-99-7P 603140-00-7P 603140-07-4P  
 603140-08-5P 603140-10-9P 603140-11-0P

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

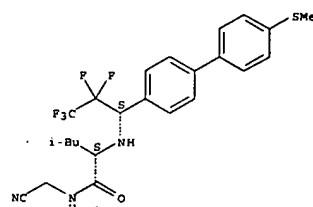
603140-12-1P 603140-13-3P 603140-20-3P  
 603140-40-5P 603140-46-1P 603140-50-7P  
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 603140-55-2P 603140-56-3P 603140-64-3P  
 603140-83-6P 603140-86-9P 603140-89-2P  
 603140-90-5P 603140-91-6P 603140-94-9P  
 603140-95-0P 603140-99-4P 603141-02-2P  
 603141-05-5P 603141-06-6P 603141-07-7P  
 603141-08-8P 603141-09-9P 603141-10-2P  
 603141-11-3P 603141-12-4P 603141-13-5P  
 603141-14-6P 603141-16-8P 603141-27-1P  
 603141-37-3P 603141-56-6P 603141-69-1P  
 603141-70-4P 603141-71-5P 603141-80-6P  
 603141-89-5P 603141-90-8P 603141-93-1P  
 603141-95-3P 603142-11-6P 603142-12-7P  
 603142-13-8P 603142-14-9P 603142-15-0P  
 603142-20-7P 603142-21-8P 603142-23-0P  
 603142-24-1P 603142-30-9P 603142-35-4P  
 603142-36-5P 603142-42-3P 603142-45-6P  
 603142-49-0P 603142-70-7P

RL: SPW (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses);  
 (cathepsin cysteine protease inhibitors and their therapeutic use)

RN 603139-56-6 HCAPLUS

CN Pentanamide,  
 N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,3,3,3-pentafluoro-1-[4'-(methylthio)(1,1'-biphenyl)-4-yl]propyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

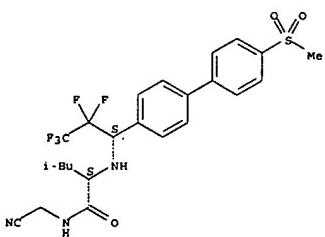


RN 603139-57-7 HCAPLUS

CN Pentanamide,  
 N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,3,3,3-pentafluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]propyl]amino-, (2S)- (9CI) (CA INDEX NAME)

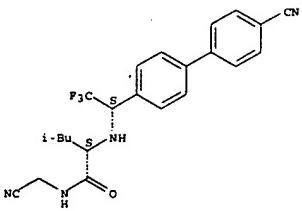
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



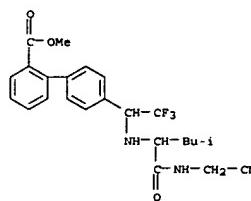
RN 603139-65-7 HCAPLUS  
 CN Pentanamide, 2-[(1S)-1-(4'-cyano[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

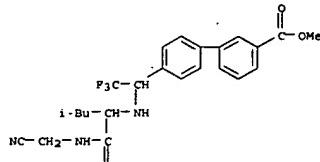


RN 603139-67-9 HCAPLUS  
 CN [1,1'-Biphenyl]-2-carboxylic acid,  
 4'-[(1-((cyanomethyl)amino)carbonyl)-3-methylbutyl]amino-2,2,2-trifluoroethyl-, methyl ester (9CI) (CA INDEX NAME)

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

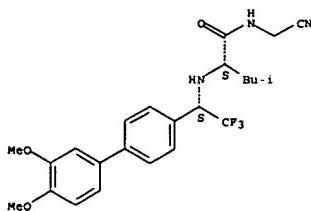


RN 603139-68-0 HCAPLUS  
 CN [1,1'-Biphenyl]-3-carboxylic acid,  
 4'-[(1-((cyanomethyl)amino)carbonyl)-3-methylbutyl]amino-2,2,2-trifluoroethyl-, methyl ester (9CI) (CA INDEX NAME)

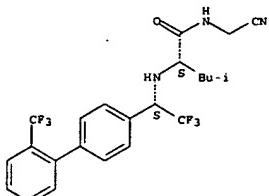


RN 603139-69-1 HCAPLUS  
 CN Pentanamide,  
 N-(cyanomethyl)-2-[(1S)-1-(3',4'-dimethoxy[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

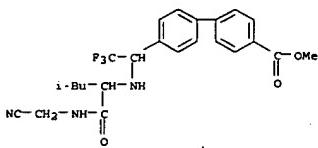
Absolute stereochemistry.



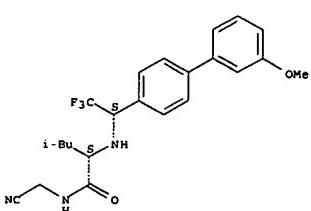
Absolute stereochemistry.



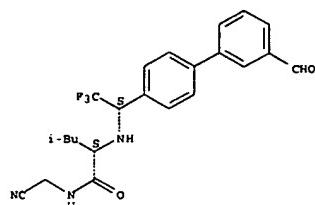
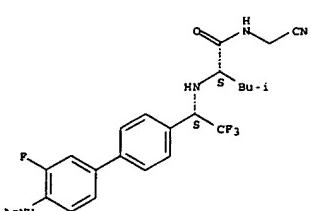
Absolute stereochemistry.



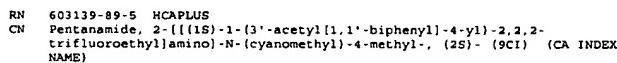
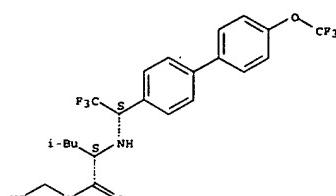
Absolute stereochemistry.



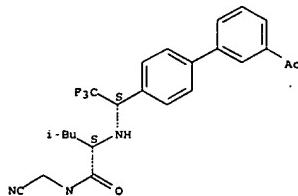
Absolute stereochemistry.



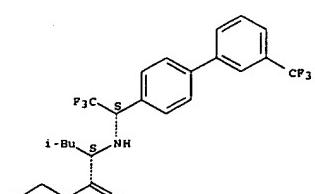
Absolute stereochemistry.



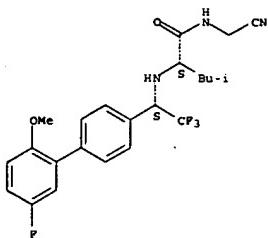
Absolute stereochemistry.



Absolute stereochemistry.



Absolute stereochemistry.

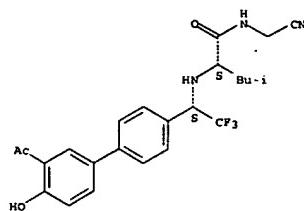


RN 603139-94-2 HCAPLUS  
 CN 2-Propenoic acid, 3-[4'-(1-[(1-[(cyanomethyl)amino]carbonyl]-3-methylbutyl)amino]-2,2,2-trifluoroethyl)[1,1'-biphenyl]-3-yl]- (9CI) (CA INDEX NAME)

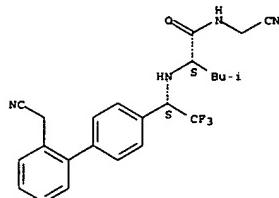


RN 603139-97-5 HCAPLUS  
 CN Pentanamide, 2-[(1S)-1-(3'-acetyl-4'-hydroxy[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

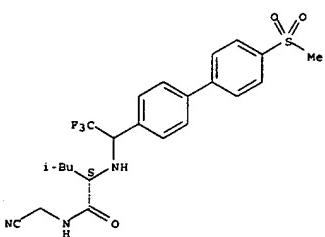


RN 603139-98-6 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-2-[(1S)-1-2'-(cyanomethyl)[1,1'-biphenyl]-4-yl]-2,2,2-trifluoroethyl]amino)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)  
 Absolute stereochemistry.



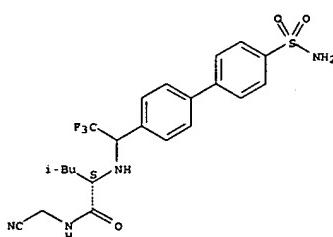
RN 603139-99-7 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-(4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl)ethyl)amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



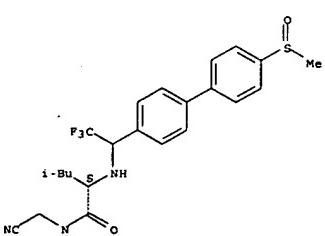
RN 603140-00-7 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl)ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



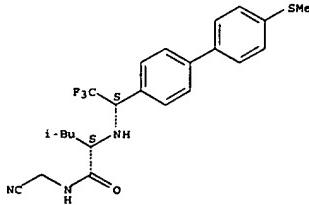
RN 603140-00-5 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylthio)[1,1'-biphenyl]-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



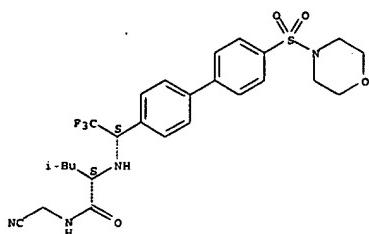
RN 603140-07-4 HCAPLUS  
 CN Pentanamide, 2-[(1-(4'-(aminosulfonyl)[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl)amino]-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



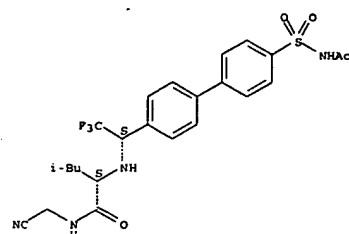
RN 603140-10-9 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(4-morpholinylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



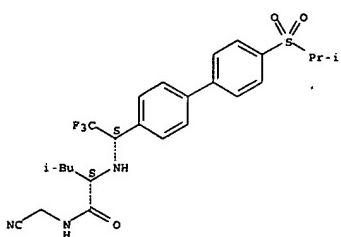
RN 603140-11-0 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1*S*)-2,2,2-trifluoro-1-[4'-(1-methylethyl)sulfonyl][1,1'-biphenyl]-4-yl]ethylamino]-, (2*S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



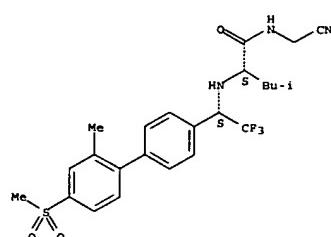
RN 603140-13-2 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1*S*)-2,2,2-trifluoro-1-[2'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethylamino]-, (2*S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



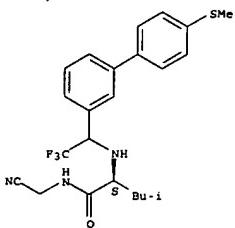
RN 603140-12-1 HCAPLUS  
 CN Pentanamide, 2-[(1*S*)-1-[4'-(acetylaminosulfonyl)[1,1'-biphenyl]-4-yl]-2,2,2-trifluoroethylamino]-N-(cyanomethyl)-4-methyl-, (2*S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



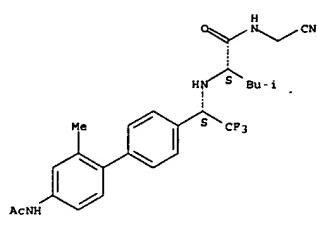
RN 603140-30-3 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylthio)[1,1'-biphenyl]-3-yl]ethylamino]-, (2*S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



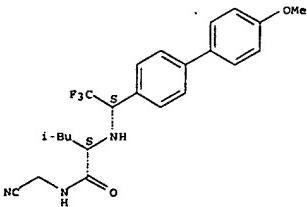
RN 603140-40-5 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1*S*)-2,2,2-trifluoro-1-(4'-methoxy[1,1'-biphenyl]-4-yl)ethylamino]-, (2*S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



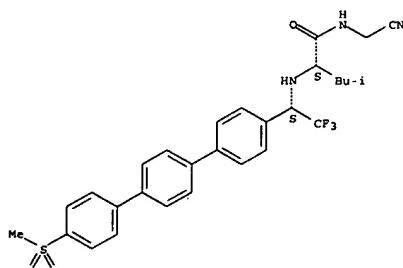
RN 603140-50-7 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1*S*)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1':4',1''-terphenyl]-4-yl]ethylamino]-, (2*S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

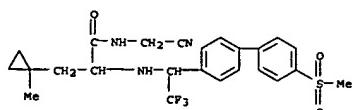


RN 603140-46-1 HCAPLUS  
 CN Pentanamide, 2-[(1*S*)-1-[4'-(acetylaminosulfonyl)-2'-methyl[1,1'-biphenyl]-4-yl]-2,2,2-trifluoroethylamino]-N-(cyanomethyl)-4-methyl-, (2*S*)- (9CI) (CA INDEX NAME)

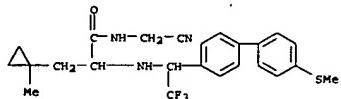
Absolute stereochemistry.



RN 603140-52-9 HCAPLUS  
 CN Cyclopropane propanamide, N-(cyanomethyl)-1-methyl- $\alpha$ -[(2,2,2-trifluoro-1-[4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl)amino]- (9CI) (CA INDEX NAME)

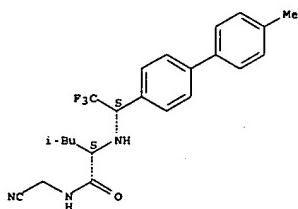


RN 603140-53-0 HCAPLUS  
 CN Cyclopropanepropanamide, N-(cyanomethyl)-1-methyl-a-[(2,2,2-trifluoro-1-[4'-(methylthio)-1,1'-biphenyl]-4-yl)ethyl]amino-, (9CI) (CA INDEX NAME)



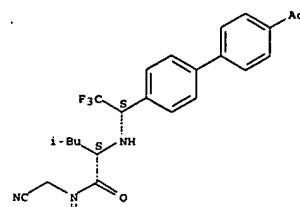
RN 603140-54-1 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-(4'-methyl-1,1'-biphenyl)-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



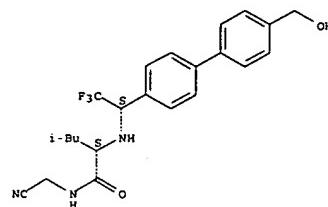
RN 603140-55-2 HCAPLUS  
 CN Pentanamide, 2-[(1S)-1-(4'-acetyl-1,1'-biphenyl)-4-yl]-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



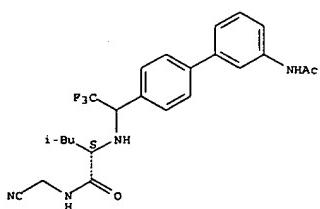
RN 603140-56-3 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-(4'-hydroxymethyl)-1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



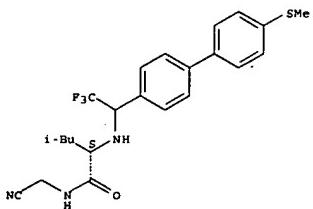
RN 603140-64-3 HCAPLUS  
 CN Pentanamide, 2-[(1-[3'-(acetylamino)-1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



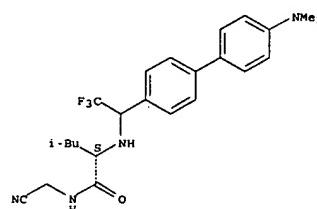
RN 603140-83-6 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylthio)-1,1'-biphenyl]-4-yl)ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



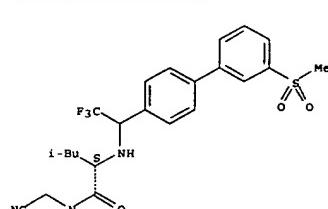
RN 603140-86-9 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-2-[(1-[4'-(dimethylamino)-1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



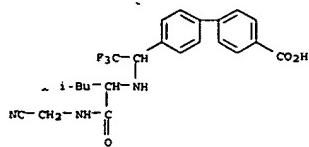
RN 603140-89-2 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[3'-(methylsulfonyl)-1,1'-biphenyl]-4-yl)ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

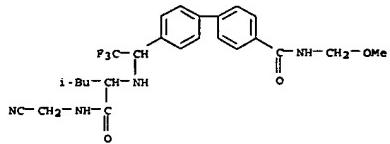


RN 603140-90-5 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(1-[(1-(cyanomethyl)amino)carbonyl]-3-methylbutyl)amino)-2,2,2-trifluoroethyl] (9CI) (CA INDEX NAME)

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



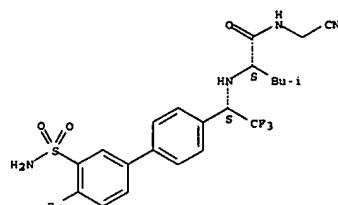
RN 603140-91-6 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxamide,  
 4'-(1-[(1-[(cyanomethyl)amino]carbonyl)-3-methylbutyl]amino)-2,2,2-trifluoroethyl)-N-(methoxymethyl)-, (9CI) (CA INDEX NAME)



RN 603140-94-9 HCAPLUS  
 CN Pentanamide,  
 2-[(1S)-1-[(3'-(aminosulfonyl)-4'-bromo[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino]-N-(cyanomethyl)-4-methyl-, (2S)-, (9CI) (CA INDEX NAME)

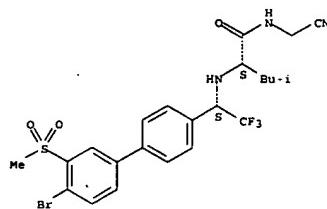
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603140-95-0 HCAPLUS  
 CN Pentanamide,  
 2-[(1S)-1-[(4'-bromo-3'-(methylsulfonyl)[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino]-N-(cyanomethyl)-4-methyl-, (2S)-, (9CI) (CA INDEX NAME)

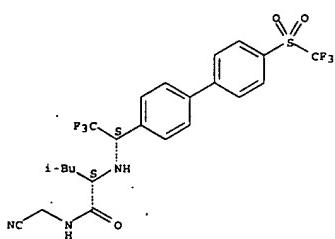
Absolute stereochemistry.



RN 603140-99-4 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[(4'-(trifluoromethyl)sulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)-, (9CI) (CA INDEX NAME)

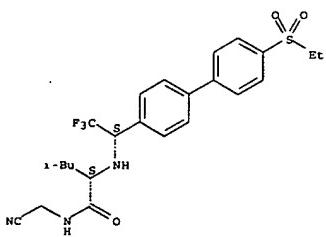
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 603141-02-2 HCAPLUS  
 CN Pentanamide,  
 N-(cyanomethyl)-2-[(1S)-1-(4'-(ethylsulfonyl)[1,1'-biphenyl]-4-yl)-2,2,2-trifluoroethyl]amino)-4-methyl-, (2S)-, (9CI) (CA INDEX NAME)

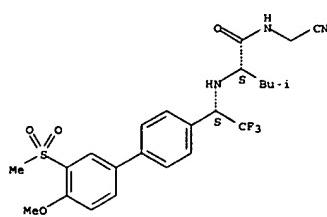
Absolute stereochemistry.



RN 603141-05-5 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-methoxy-3'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)-, (9CI) (CA INDEX NAME)

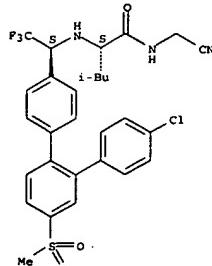
Absolute stereochemistry.

L10 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



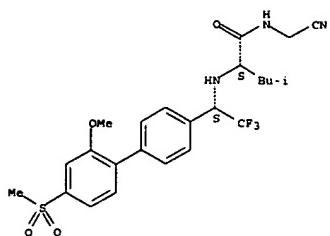
RN 603141-06-6 HCAPLUS  
 CN Pentanamide, 2-[(1S)-1-[(4''-chloro-4'-(methylsulfonyl)[1,1':2',1'''-terphenyl]-4-yl)-2,2,2-trifluoroethyl]amino]-N-(cyanomethyl)-4-methyl-, (2S)-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.



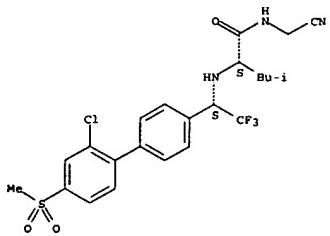
RN 603141-07-7 HCAPLUS  
 CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[2'-methoxy-4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.



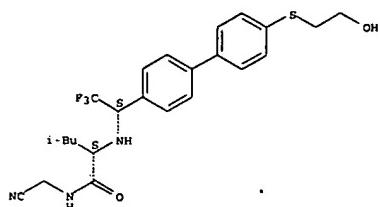
RN 603141-08-8 HCAPLUS  
CN Pentanamide, 2-[(1S)-1-[2'-chloro-4'-(methyleusfonyl)[1,1'-biphenyl]-4-yl]-2,2,2-trifluoroethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



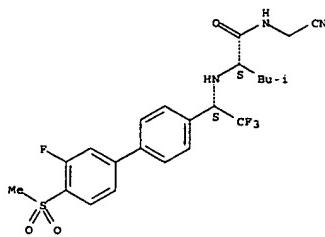
RN 603141-09-9 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{4'-(2-hydroxyethyl)thiol[1,1'-biphenyl]-4-yl}ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



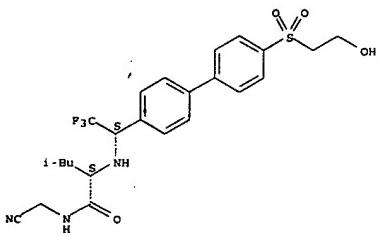
RN 603141-10-2 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{3'-fluoro-4'-(methyleusfonyl)[1,1'-biphenyl]-4-yl}ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



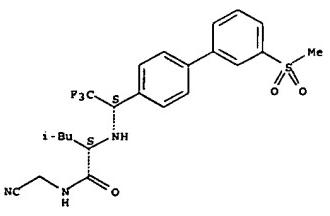
RN 603141-11-3 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{4'-(2-hydroxyethyl)sulfonyl}[1,1'-biphenyl]-4-yl}ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



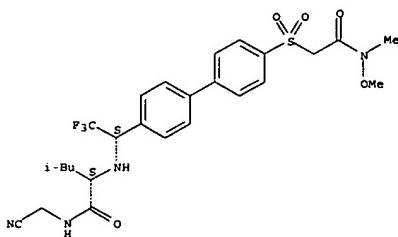
RN 603141-12-4 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{3'-(methyleusfonyl)[1,1'-biphenyl]-4-yl}ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



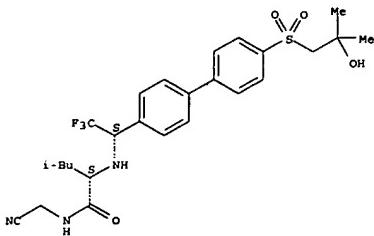
RN 603141-13-5 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{2-(methoxymethylamino)-2-oxoethyl}sulfonyl][1,1'-biphenyl]-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



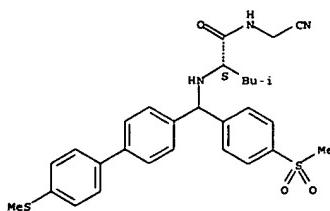
RN 603141-14-6 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-{4'-(2-hydroxy-2-methylpropyl)sulfonyl}[1,1'-biphenyl]-4-yl}ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 603141-16-8 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(4-(methyleusfonyl)phenyl)-4-(methylthio)[1,1'-biphenyl]-4-yl]methyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

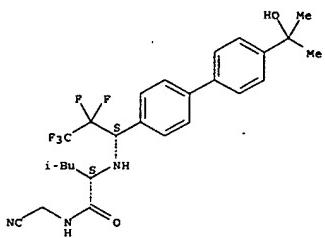


RN 603141-27-1 HCAPLUS

CN Pentanamide,

N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,3,3,3-pentafluoro-1-(4'-  
(1-hydroxy-1-methylethyl)(1,1'-biphenyl)-4-yl)propyl]amino-, (2S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.

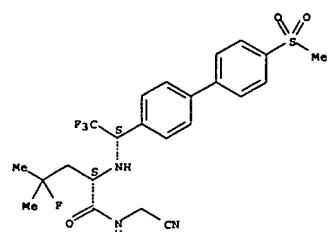


RN 603141-17-3 HCAPLUS

CN Pentanamide,

N-(cyanomethyl)-4-fluoro-4-methyl-2-[(1S)-2,2,2-trifluoro-1-  
(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)ethyl]amino-, (2S)- (9CI) (CA  
INDEX NAME)

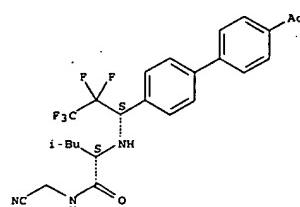
Absolute stereochemistry.



RN 603141-56-6 HCAPLUS

CN Pentanamide, 2-[(1S)-1-(4'-acetyl[1,1'-biphenyl]-4-yl)-2,2,3,3,  
INDEX  
NAME)

Absolute stereochemistry.

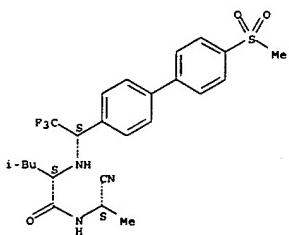


RN 603141-69-1 HCAPLUS

CN Pentanamide,

N-[(1S)-1-cyanoethyl]-4-methyl-2-[(1S)-2,2,2-trifluoro-1-(4'-  
(methylsulfonyl)(1,1'-biphenyl)-4-yl)ethyl]amino-, (2S)- (9CI) (CA  
INDEX  
NAME)

Absolute stereochemistry.

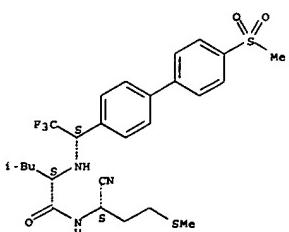


RN 603141-70-4 HCAPLUS

CN Pentanamide,

N-[(1S)-1-cyano-3-(methylthio)propyl]-4-methyl-2-[(1S)-2,2,2-  
trifluoro-1-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)ethyl]amino-, (2S)-  
(9CI) (CA INDEX NAME)

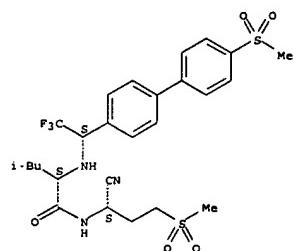
Absolute stereochemistry.



RN 603141-71-5 HCAPLUS

CN Pentanamide, N-[(1S)-1-cyano-3-(methylsulfonyl)propyl]-4-methyl-2-[(1S)-  
2,2,2-trifluoro-1-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)ethyl]amino-,  
(2S)- (9CI) (CA INDEX NAME)

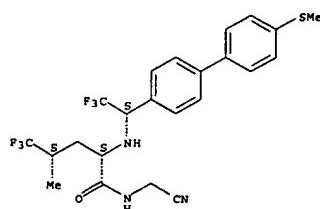
Absolute stereochemistry.



RN 603141-80-6 HCAPLUS

CN Pentanamide, N-(cyanomethyl)-5,5,5-trifluoro-4-methyl-2-[(1S)-2,2,2-  
trifluoro-1-(4'-(methylthio)(1,1'-biphenyl)-4-yl)ethyl]amino-, (2S,4S)-  
(9CI) (CA INDEX NAME)

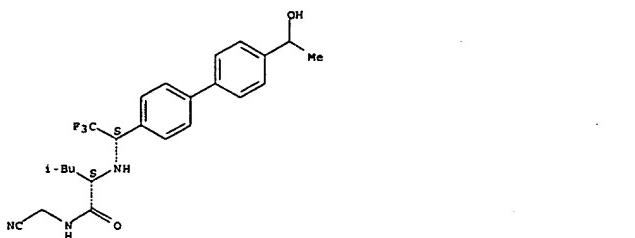
Absolute stereochemistry.



RN 603141-89-5 HCAPLUS

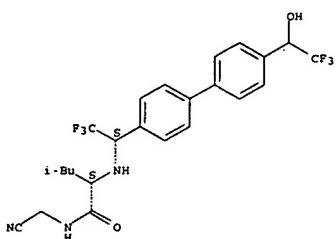
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-(4'-(1-  
hydroxyethyl)(1,1'-biphenyl)-4-yl)ethyl]amino-, (2S)- (9CI) (CA INDEX  
NAME)

Absolute stereochemistry.



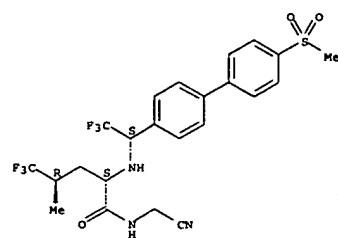
RN 603141-90-8 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(2,2,2-trifluoro-1-hydroxyethyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



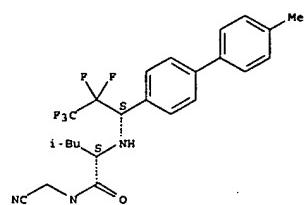
RN 603141-93-1 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-5,5,5-trifluoro-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S,4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



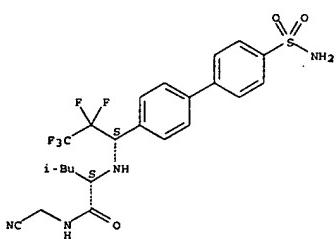
RN 603141-95-3 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,3,3,3-pentafluoro-1-[4'-methyl(1,1'-biphenyl)-4-yl]propyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



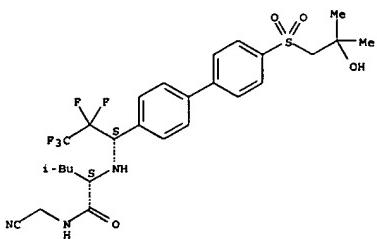
RN 603142-11-6 HCAPLUS  
CN Pentanamide, 2-[(1S)-1-[4'-(aminosulfonyl)(1,1'-biphenyl)-4-yl]-2,2,3,3,3-pentafluoropropyl]amino)-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



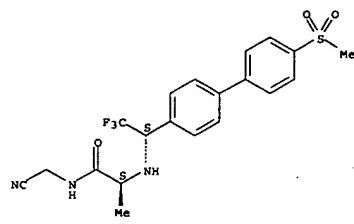
RN 603142-12-7 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,3,3,3-pentafluoro-1-[4'-(2-hydroxy-2-methylpropyl)sulfonyl](1,1'-biphenyl)-4-yl]propyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



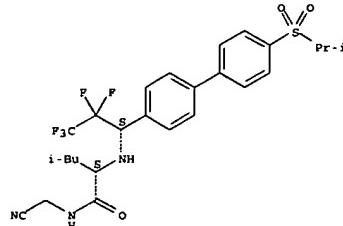
RN 603142-13-8 HCAPLUS  
CN Propanamide, N-(cyanomethyl)-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



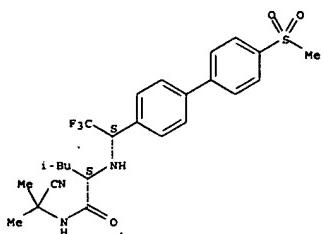
RN 603142-14-9 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1S)-2,2,3,3,3-pentafluoro-1-[4'-(1-methylethyl)sulfonyl](1,1'-biphenyl)-4-yl]propyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



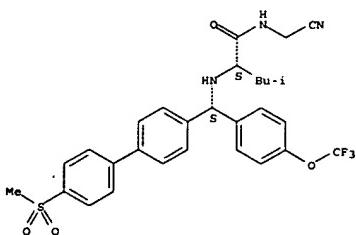
RN 603142-15-0 HCAPLUS  
CN Pentanamide, N-(1-cyano-1-methylethyl)-4-methyl-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]ethyl]amino]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



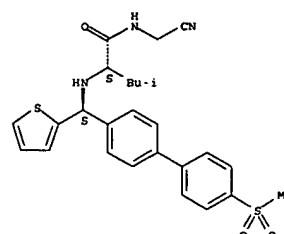
RN 603142-20-7 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(S)-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)[4-(trifluoromethoxy)phenyl]methyl]amino-, (2S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.



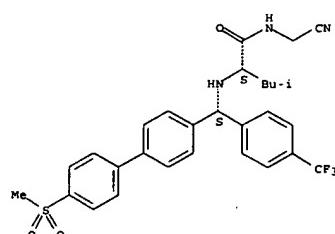
RN 603142-21-8 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(S)-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)-2-thienylmethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



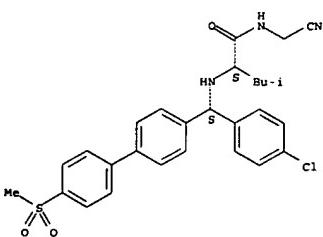
RN 603142-23-0 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(S)-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)[4-(trifluoromethyl)phenyl]methyl]amino-, (2S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.



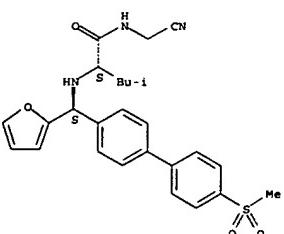
RN 603142-24-1 HCAPLUS  
CN Pentanamide, 2-[(S)-(4-chlorophenyl)[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl]methyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



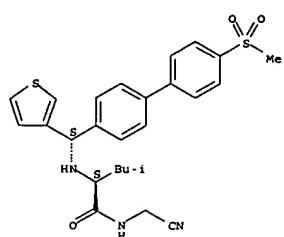
RN 603142-30-9 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-2-[(S)-2-furanyl[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)methyl]amino]-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



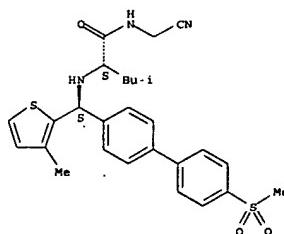
RN 603142-35-4 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(S)-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)-3-thienylmethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



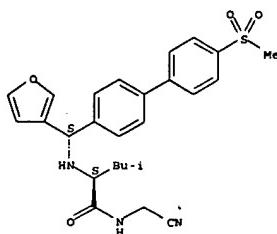
RN 603142-36-5 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(S)-(4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)(3-methyl-2-thienyl)methyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



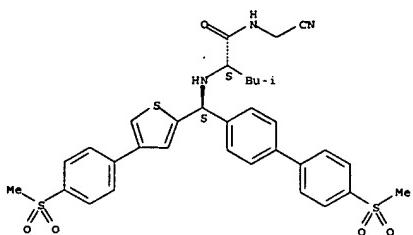
RN 603142-42-3 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-2-[(S)-3-furanyl[4'-(methylsulfonyl)(1,1'-biphenyl)-4-yl)methyl]amino]-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



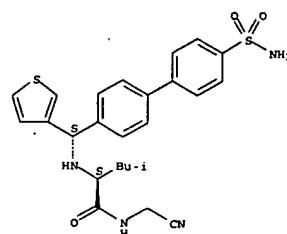
RN 603142-45-6 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(S)-[4'-(methylsulfonyl){1,1'-biphenyl}-4-yl][4-[4-(methylsulfonyl)phenyl]-2-thienyl]methyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



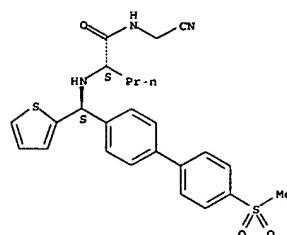
RN 603142-49-0 HCPLUS  
CN Pentanamide, 2-[(S)-[4'-(aminosulfonyl){1,1'-biphenyl}-4-yl]-3-thienylmethyl]amino-N-(cyanomethyl)-4-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



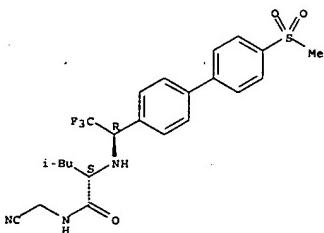
RN 603142-70-7 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-2-[(S)-[4'-(methylsulfonyl){1,1'-biphenyl}-4-yl]-2-thienylmethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



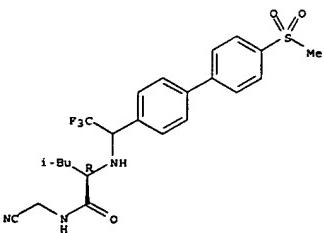
IT 603143-34-6 603143-36-8 603143-38-0  
603143-63-1 603143-64-2 603143-67-5  
603143-94-8 603143-96-0 603143-98-2  
603144-00-9 603145-26-2  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(cathepsin cysteine protease inhibitors and their therapeutic use)  
RN 603143-34-6 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(1R)-2,2,2-trifluoro-1-[4'-(methylsulfonyl){1,1'-biphenyl}-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX)

Absolute stereochemistry.



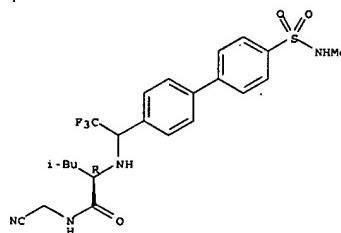
RN 603143-36-8 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylsulfonyl){1,1'-biphenyl}-4-yl]ethyl)amino]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



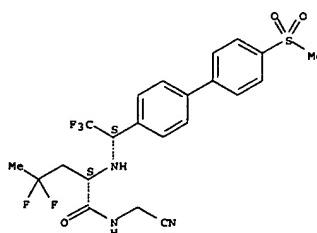
RN 603143-38-0 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-4-methyl-2-[(2,2,2-trifluoro-1-[4'-(methylaminosulfonyl){1,1'-biphenyl}-4-yl]ethyl)amino]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



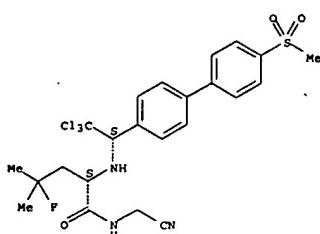
RN 603143-63-1 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-4,4-difluoro-2-[(1S)-2,2,2-trifluoro-1-[4'-(methylsulfonyl){1,1'-biphenyl}-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



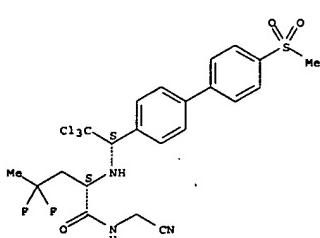
RN 603143-64-2 HCPLUS  
CN Pentanamide, N-(cyanomethyl)-4-fluoro-4-methyl-2-[(1S)-2,2,2-trichloro-1-[4'-(methylsulfonyl){1,1'-biphenyl}-4-yl]ethyl]amino-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



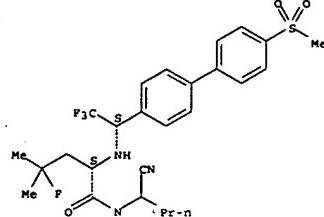
RN 603143-67-5 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4,4-difluoro-2-[(*(1S*)-2,2,2-trichloro-1-{4'-(methylsulfonyl){1,1'-biphenyl}-4-yl}ethyl]amino]-, (*2S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



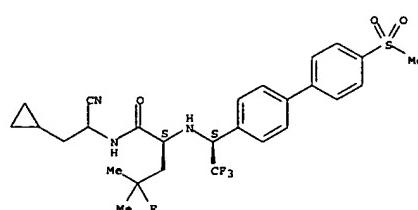
RN 603143-94-8 HCAPLUS  
CN Pentanamide, N-(1-cyanobutyl)-4-fluoro-4-methyl-2-[(*(1S*)-2,2,2-trifluoro-1-{4'-(methylsulfonyl){1,1'-biphenyl}-4-yl}ethyl]amino]-, (*2S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



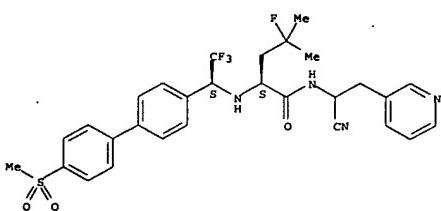
RN 603143-96-0 HCAPLUS  
CN Pentanamide, N-(1-cyano-2-cyclopropylethyl)-4-fluoro-4-methyl-2-[(*(1S*)-2,2,2-trifluoro-1-{4'-(methylsulfonyl){1,1'-biphenyl}-4-yl}ethyl]amino]-, (*2S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



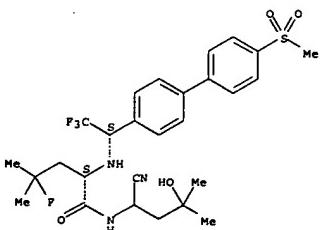
RN 603143-98-2 HCAPLUS  
CN Pentanamide, N-(1-cyano-2-(3-pyridinyl)ethyl)-4-fluoro-4-methyl-2-[(*(1S*)-2,2,2-trifluoro-1-{4'-(methylsulfonyl){1,1'-biphenyl}-4-yl}ethyl]amino]-, (*2S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



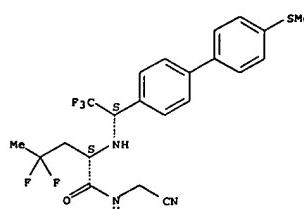
RN 603144-00-9 HCAPLUS  
CN Pentanamide, N-(1-cyano-3-hydroxy-3-methylbutyl)-4-fluoro-4-methyl-2-[(*(1S*)-2,2,2-trifluoro-1-{4'-(methylsulfonyl){1,1'-biphenyl}-4-yl}ethyl]amino]-, (*2S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 603145-26-2 HCAPLUS  
CN Pentanamide, N-(cyanomethyl)-4,4-difluoro-2-[(*(1S*)-2,2,2-trifluoro-1-{4'-(methylthio){1,1'-biphenyl}-4-yl}ethyl]amino]-, (*2S*)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L10 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 22 Sep 2000

AB Title compds: [R1R2NC(R3)R4CN; R1 = R11R7NC(R5R9X1,

R11R8NC(R6R10X2NR7CR5R9X1;

X1, X2 independently = CO, CH2CO2; R5, R6 independently = H, Cl-alkyl;  
 R7, R8 independently = H, Cl-alkyl; R9, R10 independently =  
 (un)substituted-Cl-alkyl; R9-R7 = trimethylene, tetramethylene,  
 phenylene-1,2-dimethylene; R10-R8 = trimethylene, tetramethylene,  
 phenylene-1,2-dimethylene; R5-R9 = C3-8cycloalkylene, C3-  
 heterocycloalkylene; R10-R6 = C3-8cycloalkylene.

C3-8heterocycloalkylene;

R11 = X4X5R10; X4 = CO, COCO, SO2; X5 = bond, O, NH; R18 = Cl-alkyl; R2

H, Cl-alkyl; R3 = H, Cl-alkyl; R4 = CN, COOH, COOC1-alkyl; R2-R4 =  
 trimethylene, tetramethylene, phenylene-1,2-dimethylene; R4-R3 =  
 C3-8cycloalkylene, C3-heterocycloalkylene, N-oxide, prodrug, isomers,  
 pharmaceutically acceptable salts, and composition are prepared as  
 therapeutically effective estrogen receptor agonist. Title compds. are  
 claimed in treating osteoporosis in post-menopausal woman in which  
 cathepsin K activity contributes to the pathol. and symptomatol. of the  
 disease. Thus, the title compound

(S)-C6H5CH2CONH(CH2CH(CH3)2)CONHCH2CN

was prepared

ACCESSION NUMBER: 2000:666701 HCAPLUS

DOCUMENT NUMBER: 133:253050

TITLE: Preparation of novel N-cyanomethyl amide compounds  
andcompositions as protease inhibitors to treat  
osteoporosis.INVENTOR(S): Bryant, Clifford M.; Palmer, James T.; Rydzewski,  
Robert M.; Setti, Eduardo L.; Tian, Zong-Qiang;

Venkatraman, Shankar; Wang, Dan-Xiong

PATENT ASSIGNEE(S): Axys Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 155 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

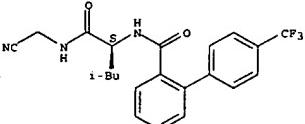
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000055126	A2	20000921	WO 2000-US6837	20000315
WO 2000055126	A3	20010222		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NL, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, PT, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MM, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, PI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2368148	A1	20000921	CA 2000-2368148	20000315
EP 1161415	A2	20011212	EP 2000-916375	20000315
EP 1161415	B1	20050713		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

L10 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
methylbutyl)-4'-(trifluoromethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L10 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

IE, SI, LT, LV, FI, RO

BR 2000009043 A 20020108 BR 2000-9043 20000315

TR 200103337 T2 20020311 TR 2001-3390 20000315

HU 200200347 A2 20020639 HU 2002-347 20000315

US 6455502 B1 20020934 US 2000-526090 20000315

TR 200201874 T2 20021031 TR 2002-1874 20000315

US 6476036 B1 20021105 US 2000-526485 20000315

JP 200253192 T 20021119 JP 2000-605557 20000315

EE 200100467 A 20030217 EE 2001-487 20000315

AU 769736 B2 20040205 AU 2000-37486 20000315

PT 1178958 T 20040720 PT 2000-916343 20000315

EP 1452522 A2 20040901 EP 2004-75486 20000315

EP 1452522 A3 20050209 EP 1999-124420P P 19990315

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, LT, LV, FI, MK, PL, CY, AL

ES 2215626 T3 20041016 ES 2000-916343 20000315

AT 299493 T 20050715 AT 2000-916375 20000315

ES 2345103 T3 20060101 ES 2000-916375 20000315

ZA 2001007494 A 20020911 ZA 2001-7494 20010911

ZA 2001007495 A 20020911 ZA 2001-7495 20010911

NO 2001004484 A 20011026 NO 2001-4484 20010914

BG 106013 A 20020531 BG 2001-106013 20011012

HR 2001000737 A1 20021031 HR 2001-737 20011012

US 2002086996 A1 20020704 US 2001-17851 20011214

US 6593327 B2 20030715 US 2002-205600 20020724

US 2003096796 A1 20030522 US 2002-205600 20020724

US 20031119786 A1 20030626 US 2002-241001 20020909

US 2004147745 A1 20040729 US 2004-758893 20040115

US 2007015755 A1 20070118 US 2006-533582 20060920

PRIORITY APPLN. INFO.: US 1999-124420P P 19990315

EP 2000-916343 A3 20000315

US 2000-526090 A1 20000315

US 2000-526485 A3 20000315

WO 2000-US6837 W 20000315

US 2002-205600 B1 20020724

US 2004-758893 B1 20040115

OTHER SOURCE(S): MARPAT 133:252050

IT 294622-17-6P

RL: BAC (Biological activity or effector, except adverse); BSU

(Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOI (Biological study); PREP (Preparation); USES (Uses)

(preparation of novel N-cyanomethyl amides and compns. as protease

inhibitors).

RN 294622-17-6 HCAPLUS

CN [(1,1'-Biphenyl)-2-carboxamide,

N-[(1S)-1-((cynamomethylamino)carbonyl)-3-

L10 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 27 May 1999

AB N-terminal substituted dipeptide nitriles R(L)XX1NHCR2R3C(=O)NHCR4R5CN (R

is optionally substituted aryl, alkyl, alkenyl, alkynyl, heterocyclic;

R2,

R3 = H, optionally substituted alkyl, cycloalkyl, bicycloalkyl, or aryl-,

biaryl-, cycloalkyl, bicycloalkylalkyl; R2 and R3 together represent

alkylene, optionally interrupted by O, S, or NR6, where R6 is H, alkyl,

arylaalkyl; or R2 or R3 are linked by alkylene to the adjacent nitrogen to

form a ring; R4 = H, optionally substituted alkyl, arylalkyl, CO2R7,

CONH7R8 (R7 is optionally substituted alkyl, aryl, arylalkyl, cycloalkyl,

bicycloalkyl, or heterocyclic) and R6 is H or optionally substituted

alkyl, aryl, arylalkyl, cycloalkyl, bicycloalkyl, heterocyclic), etc.; R4 and R5

together represent alkylene, optionally interrupted by O, S, or NR6; XI =

CO, CS, SO, SO2, P(=O)OR; Y = O, S; L is optionally substituted Het,

Het-CH2, CH2-Het (Het = O, N, or S); Z = zero or 1; were prepared as

inhibitors of cysteine cathepsins, e.g., cathepsins B, K, L and S, and

can be used for the treatment of cysteine cathepsin dependent diseases and

conditions. Thus, N-[2-[(3-carboxyphenyl)methoxy]-1(S)-3-

methyl-Nu(2,2-diphenylacetyl)-L-phenylalaninamide was prepared and

shown to have IC50 = 5 nM for inhibition of cathepsin B.

ACCESSION NUMBER: 1999:325961 HCAPLUS

DOCUMENT NUMBER: 130:352553

TITLE: Synthesis of dipeptide nitriles as inhibitors of

cysteine cathepsins

INVENTOR(S): Altmann, Eva; Betschart, Claudia; Gohda, Keigo;

Horiechi, Miyuki; Lattmann, Rene; Missbach, Martin;

Sakaki, Junichi; Takei, Michihiro; Teno, Naoki;

Cowen, Scott Douglas; Greenspan, Paul David; McQuire, Leslie

Wighton; Tommasi, Ruben Alberto; Van Duzer, John

Henry

PATENT ASSIGNEE(S): Novartis AG, Switz.; Novartis-Erforschungen

Verwaltungsgesellschaft mbH

SOURCE: PCT Int. Appl., 137 pp.

CODEN: PIIXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9924460	A2	19990520	WO 1998-EP6937	19981103
WO 9924460	A3	19990902		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,

DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE,

KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MM,

MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,

TT, UA, UG, US, UZ, VN, YU, ZW

RW: GH, GM, KE, LS, MM, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,

FI, PR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,

CM, GA, GN, ML, MR, NE, SN, TD, TG

CA 230613 A1 19990520 CA 1998-230613 19981103

AU 9914673 A 19990531 AU 1999-14873 19981103

AU 751669 B2 20020822

EP 1028942 A2 20000823 EP 1998-958887 19981103

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

L10 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

IE, FI	A	20000829	BR 1998-13197	19981103
BR 9813197	T2	20000921	TR 2000-200001189	19981103
TR 200001189	T	20011120	JP 2000-520468	19981103
JP 2001522862	A2	20020429	HU 2000-4400	19981103
HU 200004400	C2	20030327	RU 2000-114821	19981103
RU 2201420	A	19990505	ZA 1998-10073	19981104
ZA 9810073	B	20010411	TW 1998-87118553	19981105
TW 527362	A	20000704	NO 2000-2320	20000502
NO 2000002320	B1	20020305	US 2000-643639	20000822
US 6353017	A1	20040212	US 2003-342872	20030115
US 2004029814	A1	20040610	US 2003-694673	20031028
US 2004110806	A1	20061019	US 2006-374995	20060315
US 2006235220			GB 1997-23407	A 19971105
PRIORITY APPLN. INFO.:				
			US 1997-108160P	P 19971205
			US 1997-985973	A 19971205
			WO 1998-EP6937	W 19981103
			US 1998-186223	B1 19981104
			US 2000-643639	A1 20000822
			US 2002-54590	B1 20020122
			US 2003-342872	A1 20030115
			US 2003-694673	B1 20031028

OTHER SOURCE(S): MARPAT 130:352553

IT 225119-32-4P  
 RL: BAC (Biological activity or effector, except adverse); BSU  
 (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);  
 BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (synthesis of dipeptide nitriles as inhibitors of cysteine cathepsins)  
 RN 225119-32-4 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxamide, N-[(1S)-1-[(1S)-1-cyano-3-methylbutyl]amino]carbonyl-3-methylbutyl]-4'-methoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L10 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

